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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,805	10/12/2001	Maximilian Polyak	053137-5002-01	2437

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EXAMINER	
SAUCIER, SANDRA E	

ART UNIT	PAPER NUMBER
1651	9

DATE MAILED: 05/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/976,805	Polyak et al.
Examiner	**Art Unit**
Sandra Saucier	1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Mar 17, 2003* .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above, claim(s) *6-8, 13-19, and 21-28* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-5, 9-12, and 20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *4,5*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 1-28 are pending. Claims 1-5, 9-12 and 20 are considered on the merits. Claims 6-8, 13-19, 21-28 are withdrawn from consideration as being drawn to a non-elected invention.

Election/Restriction

Claims 6-8, 13-19, 21-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected inventions, the requirement having been traversed in Paper No. 8.

Applicant's election with traverse of Group I in Paper No. 8 is acknowledged. The traversal is on the grounds that no undue burden would ensue from the examination of all the claims. This is not found persuasive because the several inventions listed above are independent and distinct from one another as they require independent searches, particularly with regard to the literature searches. Clearly, a reference which would anticipate one of the above groups would not necessarily anticipate or even make obvious any of the others.

An undue burden would ensue from the examination of multiple methods which have distinct steps and end points. Burden lies not only in the search of US Patents, but in the search for literature and foreign patents and examination of the claim language and specification for compliance with the statutes concerning new matter, distinctness and scope of enablement.

The requirement is still deemed proper and is therefore made FINAL.

Please note that method of making and use may be rejoined upon the determination of an allowable product upon submission of appropriate claims LIMITED TO THE ALLOWABLE PRODUCT.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-11 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9-11, 20 recite mcg/L prostaglandin E1. The abbreviation mcg does not appear to be a term of art. **Please provide evidence concerning its meaning.** Micrograms is usually abbreviated µg.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action: A person shall be entitled to a patent unless (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent, (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 12 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fukuse *et al.* [U].

The claims are directed to a tissue preservation solution comprising:
prostaglandin (E1)
nitric oxide donor (nitroglycerin)
glutathione-forming agent (N-acetylcysteine).

The references are relied upon as explained below.

Fukuse *et al.* teaches a tissue preservation solution termed new ET-K in combination with PGE1 (Materials and Methods, page 1213). The perfusion solution contains:
prostaglandin E1,
nitroglycerin,
N-acetylcysteine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action: (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 9-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polyak *et al.* [7] or Polyak *et al.* [3] in view of US 5,552,267 [IDS].

Polyak *et al.* [7] disclose a composition comprising Belzer II and 500µg/l prostaglandin E1 useful for perfusing kidney.

Polyak *et al.* [3] disclose a composition comprising Belzer MPS or Belzer II and 500µg/l prostaglandin E1 useful for perfusing kidney.

The references lack the inclusion of NAC and nitroglycerin.

US 5,552,267 discloses a perfusion solution for use with organs such as kidney (col. 10, l. 35) comprising a vasodilator in an amount sufficient to maintain vascular homeostasis, glucose, Mg^{++}, macromolecules, K^{+}, and buffer (col. 4, l. 62). Further, the inclusion of NAC is preferred to the inclusion of glutathione (col. 3, l. 25) because it is more effective. The preferred concentration of NAC is 0.1-5mM (col. 16, l. 11) and of nitroglycerin is 0.05-0.2 g/l (col. 13, l. 40). The solution may be used to perfuse kidney (col. 10, l. 36).

The substitution of NAC for the glutathione in the composition of Belzer MPS or Belzer II would have been obvious when Polyak *et al.* (either reference) was taken with US 5,552,267 which teach the superiority of the use of NAC instead of glutathione in perfusion compositions (col. 3, l. 24-32).

Further, the inclusion of a vasodilator such as nitroglycerin in a solution for perfusion such as Belzer II or Belzer MPS would have been obvious when taken with US 5,552,267 which teach the inclusion of vasodilators such as nitroglycerin in order to maintain homeostasis in perfusion solutions containing glucose, Mg^{++}, macromolecules, K^{+}, and buffer (col. 4, l. 63). Belzer II or Belzer

MPS contain these ingredients and are used to perfuse organs such as kidney; thus, it would have been obvious to include a vasodilator in these solutions.

With regard to any differences that there may be in the concentration of the ingredients of the solution, in the absence of evidence to the contrary concerning the criticality of the concentration, this is considered to be an optimization of concentrations and is well within the purview of one of ordinary skill in the art.

All the components of the composition have been taught by the prior art to be useful in kidney perfusion solutions.

Claims 1-5, 9-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,712,084 [A] in view of US 5,552,267 [IDS] and Vargas *et al.* [V].

US 5,712,084 discloses the composition of the solution termed "Belzer MPS" (col. 6, l. 26-37) and UW (Belzer II) with a 5% HES concentration used for kidney perfusion.

The reference lacks the inclusion of nitroglycerin, PGE1 and NAC in the standard UW type solutions used in the art.

Vargas *et al.* disclose the perfusion of kidney with a solution containing the vasodilator, prostaglandin E1. The total dosage administered was 35-37 mg/kg. The administration of prostaglandin E1 vasodilates the kidney and decreases renal injury that occurs after ischemia.

US 5,552,267 teaches the superiority of the use of NAC instead of glutathione in perfusion compositions (col. 3, l. 24-32) and the desirability of the inclusion of vasodilators. Specifically mentioned is nitroglycerin.

The inclusion of a vasodilator such as nitroglycerin or PGE1 in a solution for perfusion such as Belzer II or Belzer MPS would have been obvious when US 5,712,084 was taken with US 5,552,267 which teach the inclusion of vasodilators such as nitroglycerin in order to maintain homeostasis in perfusion solutions containing glucose, Mg^{++}, macromolecules, K^{+}, and buffer (col. 4, l. 63) and Vargas *et al.* who demonstrates the efficacy of PGE1 perfusion in kidney

in a plain saline solution. Belzer II or Belzer MPS contain the ingredients taught in '267 and are used to perfuse organs such as kidney; thus, it would have been obvious to include vasodilators such as nitroglycerin and PGE1, which has been taught by Vargas *et al.* to be extremely useful for prevention of kidney damage in these kidney perfusion solutions.

The substitution of NAC for the glutathione in the composition of Belzer MPS or Belzer II which contains 5% HES 200-300KDa would have been obvious when US 5,712,084 was taken with US 5,552,267 which teach the superiority of the use of NAC instead of glutathione in perfusion compositions (col. 3, l. 24-32).

It is well known that it is prima facie obvious to combine two or more ingredients each of which is taught by the prior art to be useful for the same purpose in order to form a third composition which is useful for the same purpose. The idea for combining them flows logically from their having been used individually in the prior art. In re Pinten, 459 F.2d 1053, 173 USPQ 801 (CCPA 1972); In re Susi, 58 CCPA 1074, 1079-80; 440 F.2d 442, 445; 169 USPQ 423, 426 (1971); In re Crockett, 47 CCPA 1018, 1020-21; 279 F.2d 274, 276-277; 126 USPQ 186, 188 (1960).

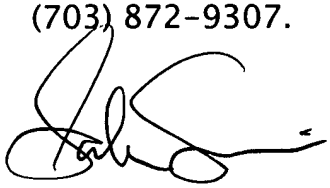
All the components of the solution are known in the art and have been used for kidney perfusion in the same concentrations. The results of the use of the solution appear to be the results which would be expected by one of ordinary skill in the art because NAC is clearly taught to be superior to glutathione and PGE1, a vasodilator, has been shown to be efficacious in preventing kidney damage in ischemia.

No claim is allowed.

To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1651. The supervisor for 1651 is M. Wityshyn, (703) 308-4743. The normal work schedule for Examiner Saucier is 8:30 AM to 5:00 PM Monday and Tuesday and 8:30 AM to noon on Wednesday.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra Saucier whose telephone

number is (703) 308-1084. Status inquiries must be directed to the Customer Service Desk at (703) 308-0197 or (703)-308-0198. The number of the Fax Center for the faxing of official papers is (703) 872-9306 or for after finals (703) 872-9307.



Sandra Saucier
Primary Examiner
Art Unit 1651
April 30, 2003